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Trading Cocoa on the JSE: Some facts

The JSE offers a listed Quanto Cocoa product which enables participants to gain exposure to the underlying cocoa market. The Quanto product is denominated in foreign currency and settled in rand. This article gives a brief background to the cocoa market, major producers, demand and supply, and more information on trading the product.

1 Background

Cocoa is grown in countries 10 degrees North and 10 degrees South of the Equator. Cocoa trees are mainly grown in West Africa, Southeast Asia and Central and South America. The natural habitat is in the lower areas of evergreen rain forests. Cocoa plants thrive under high temperatures, high humidity and abundant rainfall. Cocoa needs soil containing coarse particles and with a reasonable quantity of nutrients. The plant has a large number of roots for absorbing nutrients.

Cocoa trees begin to bear fruit when they are three to four years old. They produce pink and white flowers of which only a small proportion develop into fruit over a period of about five months. The fruit is called a pod, grows straight out of the trunk and main branches. The cocoa tree bears two harvests per year, each tree yields about 20-30 pods per year. Within each pod there are 20-40 purple beans covered in a sweet white pulp. There are three types of cocoa pods:

- Forastero: strong flavor, grown in West Africa and Brazil
- Criollo: mild flavor, grown in Central and South America
- Trinitario: hybrid of the two, grown in the Caribbean, Cameroon and Papua New Guinea

Cocoa is grown mainly on small family farms and harvesting is very labour intensive. Ripe pods are cut from trees, split open and seeds are removed. The processing of beans involves six steps:

- Fermentation: wet cocoa beans surrounded by pulp covered with leaves and left for 5-6 days
- Drying, bagging: the wet mass of beans is dried to reduce moisture, then packed into sacks
- Winnowing: the dried beans are cracked, a stream of air separates the shell from the nib
- Roasting: the nibs are roasted in special ovens at temperatures between 105-120 degrees Celcius, roasting time depends whether used for cocoa or chocolate
- Grinding: the roasted nibs are ground in stone mills until reduced to a thick chocolate-coloured liquid known as 'mass'. It contains 53-58% butter and solidifies on cooling
- Pressing: the cocoa mass is pressed in powerful machines to extract cocoa butter (for chocolate). The remaining compressed cocoa are pulverized into a fine powder to produce high grade powder

2 Producing countries

Cocoa is predominantly a smallholder crop, more than 90% of world cocoa production comes from small farms. The typical smallholder farm covers about 2 to 5 hectares of land. West Africa accounts for nearly 70% of world cocoa supply, grown on nearly 2 m small farms. Cote d'Ivoire is the biggest producer in the world (40%), followed by Ghana. Production given below:

000 tons	2008/9	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Africa	2519	2482	3225	2920	2836	3199	3068	3063
Cameroon	227	205	229	207	225	211	232	230
Cote d'Ivoire	1223	1242	1511	1486	1449	1746	1796	1690
Ghana	662	632	1025	879	835	897	740	840
Nigeria	250	235	240	235	238	248	195	200
Other	157	168	220	113	89	97	105	103
America	485	517	562	650	623	726	760	714
Brazil	157	161	200	220	185	228	230	210
Ecuador	135	150	161	193	192	234	250	230
Other	193	206	201	237	246	264	280	274
Asia & Ociana	597	633	527	511	487	447	401	377
Indonesia	490	550	440	440	410	375	325	300
Papua New Guinea	59	39	48	39	41	36	36	36
Other	48	44	39	32	36	36	40	41
World	3601	3632	4314	4081	3946	4372	4229	4154

Source: ICCO

2.1 Cote d'Ivoire

Cocoa is detrimental to Cote d'Ivoire's economy and is mainly grown around the deep green undulating grounds in the south, centre and west of the country. The crop is responsible for 22% of the country's GDP, about 20% of its tax revenue and 35% of exports. The main export destinations include the US, the Netherlands, France, Germany, Spain and South Africa. The estimated area planted is 2.2 m hectares. Production is expected at 1.690 m tons for 2015/16. The main crop season is from October to March, and mid-crop May to August. The mid-crop accounts for 15%-20% of the total harvest. Farm gate prices are lower than Ghana due to higher taxes levied on the cocoa sector. Ports used include Abidjan and San Pedro.

2.2 Ghana

Cocoa plays an important part in the economy of Ghana, employing approximately 800 000 farm families. Ghana receives a price premium in world markets because of slightly higher fat content and lower levels of debris (better butter yields). The marketing and grading system results in higher quality standards. The crop generates about \$1 bn in foreign exchange and is a major contributor to government revenue and GDP (2.2%). Production expected at 840 000 - 1 m tons, about 20% of the global market. Area planted about 1.18 m ha. The main export markets include the Netherlands, Malaysia, Spain, Japan, Belgium, China and Estonia. The main crop season is from October to March, and mid-crop May to August. Ports include Takaradi and Tema.

2.3 Indonesia

Cocoa is the fourth largest agricultural export for Indonesia, after palm oil, rubber and coconuts. The country has about 1.5 m ha of cocoa plantations, mainly smallholders (90%) which outperform large state plantations and estates. The island of Sulawesi accounts for 75% of the cocoa production totaling about 300 000 tons per year. The most important export markets the US, Malaysia and Singapore. Export taxes are levied, but more to stimulate national processing industries. The main crop season September to December, and mid-crop March to July.

2.4 Ecuador

Cocoa plays an important part in Ecuador's economy, and is known for its fine flavour. Ecuador has mineral rich volcanic soil and a tropical equatorial climate. About 100 000 families are engaged in farming, account for 90% of the production Ecuador produces about 230 000 tons per year on a planted area of 565 000 ha. The crop could reach 300 000 tons in 2016. Cocoa exports worth about \$775 m. Exports are mainly to the US, UK, Germany and Colombia. The main crop season March to June, and mid-crop December to January.

3 Grindings

'000	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Europe	1625	1521	1590	1602	1552	1585
Germany	439	407	402	412	415	430
Netherlands	540	500	545	530	508	510
Other	646	614	643	660	629	645
Africa	658	717	799	859	877	895
Cote d'Ivoire	361	431	471	519	559	575
Ghana	230	212	225	234	234	235
Other	67	74	103	106	84	85
America	861	845	898	936	874	868
Brazil	239	242	241	240	224	230
USA	401	387	429	446	398	395
Other	221	216	228	250	252	243
Asia & Oceania	794	874	853	924	844	878
Indonesia	190	270	257	340	335	370
Malaysia	305	297	293	259	195	190
Other	299	307	303	325	314	318
World	3938	3957	4140	4321	4147	4226

Source: ICCO

Europe is the largest continent where cocoa processors grind cocoa beans. The profitability of the processors depends on the ratio between input prices (cocoa beans) and output prices (cocoa butter and powder). The traditional centre for grinding is the Netherlands and Germany, now has expanded to Africa and Asia. Tax incentives have boosted processing capacity in cocoa nations in Africa. Cote d'Ivoire has now overtaken the Netherlands as the top processor. Major processing companies include Barry Callebaut, Cargill, ADM, Olam, Blommer, Mondelez, Guan Chong, Nestle, Ferrero, BT Cocoa and Ecom Cocoa.

4 Demand Supply

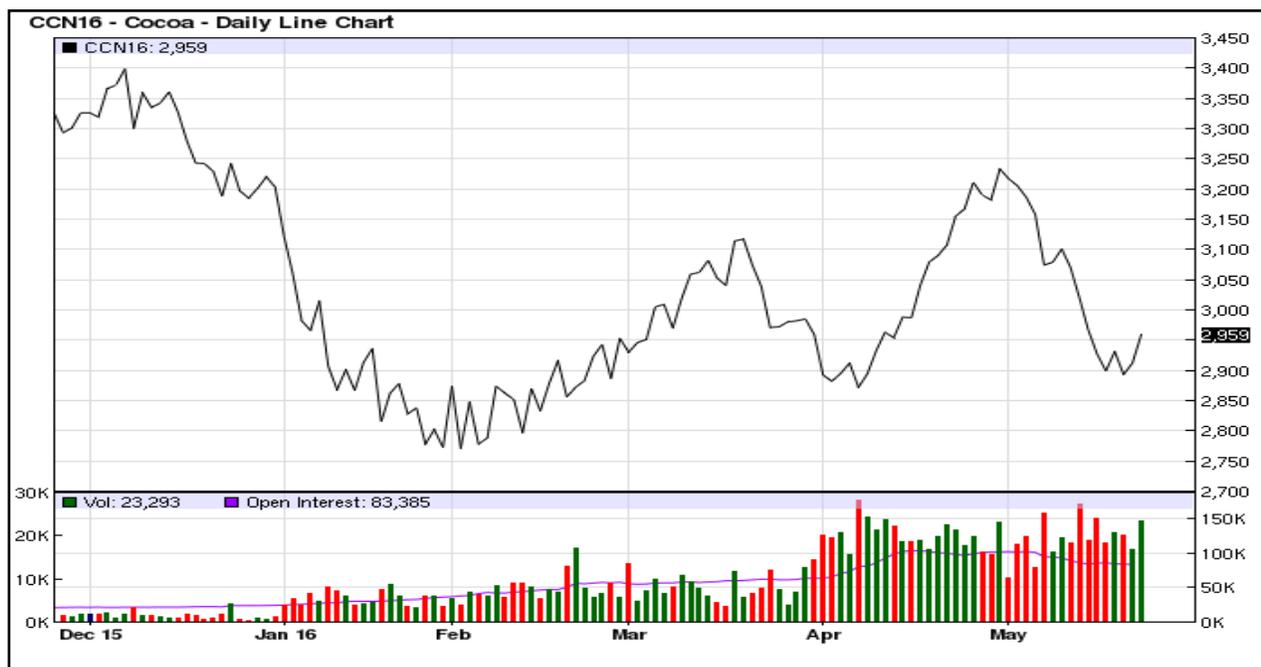
Crop (Oct –Sep)	Gross Production	Grindings	Surplus/Deficit	End	Stocks to grinding ratio
2003/4	3548	3237	287	1682	52.0
2004/5	3378	3382	-38	1644	48.6
2005/6	3808	3522	248	1892	53.7
2006/7	3430	3675	-279	1613	43.9
2007/8	3737	3775	-75	1538	40.7
2008/9	3592	3537	19	1557	44.0
2009/10	3634	3737	-139	1418	37.9
2010/11	4309	3938	328	1746	44.3
2011/12	4095	3972	82	1828	46.0
2012/13	3943	4173	-269	1559	37.4
2013/14	4372	4322	6	1565	36.2
2014/15	4230	4146	42	1607	38.8
2015/16	4154	4225	-113	1494	35.4

Source: ICCO

The table above outlines the end stocks after grindings for the period 2003/4 to 2015/16. The figures are estimates and could differ from other reports due to the difference in the marketing season used. Prices rose earlier in the year in reaction to the demand/supply situation and weather concerns. Lately, rains in West Africa and a drop in grindings has led to price decreases.

The main influences in the market include:

- Stronger US dollar
- Slow arrivals at ports due to poor quality of beans due to the effects of the drought
- The Harmattan winds in West Africa have been the worst in 30 years
- Hot and dry conditions have affected the mid-crop in West Africa
- The main crop earlier in the year was good
- Grindings starting to fall in the US and Europe



Source: Barchart.com

5 Trading Cocoa Futures

Cocoa futures are standardized, exchange traded contracts in which the contract buyer agrees to take delivery from the seller, a specific quantity of cocoa at a predetermined price on a future delivery date. The physical delivery of exchange grade products can be from a variety of African, Asian and Central and South American origins. The buyer/seller of the contract can however, close out the contract before expiry date. The main exchanges where cocoa futures trade:

- ICE Futures Europe (London): prices quoted in pounds per metric ton and trades in lot sizes of 10 tons. Symbol C, trading screen code ICEU.
- ICE Futures US (New York): prices quoted in dollars per metric tons, and trades in units of 10 tons. Symbol CC, trading screen code NYCC.
- CME Europe: prices quoted in euros per metric ton, and unit size 10 tons. Symbol CCP.
- NYMEX (CME): prices quoted in dollars per metric tons, units 10 tons. Symbol CJ.

Consumers and producers of cocoa can manage price risk by buying and selling cocoa futures. Typically, a producer will do a short hedge to lock in the selling prices. The consumer will require a long hedge to secure the purchase price. Options are also available on the cocoa futures. Speculators are involved, buying when they think the price is going up, and conversely, selling when they think the price is going to fall. Contract months: March, May, July, September and December. Minimum price movement: \$1 per ton.

5.1 JSE Quanto Cocoa

The JSE introduced a wide range of Quanto Futures and Options products which reference energy products, metals and soft commodities. Quanto Futures and Options are cash settled Derivatives in which the underlying traded product is denominated in a foreign currency that is settled in Rands at a fixed exchange rate. The Quanto Cocoa (QCOC) was introduced to give market participants exposure to the CME traded cocoa product, without the corresponding risk of exchange rate fluctuations. The benefits of the Quanto Cocoa product:

- Protects investors from rand-dollar exchange rate fluctuations allowing them to benefit directly to the dollar price performance of the underlying commodity
- Gain exposure to the international cocoa market with a contract traded in rands
- Trade directional, spreads and options of a foreign commodity

The target market includes individuals, hedge funds, pension funds and corporates:

- No limits apply to individuals, foreigners or corporate entities
- Pension funds and long-term insurance companies are subject to their 25% foreign allocation limit
- Asset managers and registered collective investment schemes are subject to their 35% foreign allocation limits

5.1.1 Example of Quanto Cocoa price movement on the JSE

CME quote \$2912 per 10 ton contract = R2912 on the JSE (QCOC) per R10 multiplier

R1 price movement =R 10

Buy 10 contracts at R2912, and if price moves to R2922:

Profit: R1000 (2922-2912: R10*10 contracts* 10 multiplier)

5.1.2 Summary of Contract specifications

Contract code: QCOC
Trading hours: 08:30-17:00
Underlying instrument: Cocoa futures contract settled in rand, reference US price on NYMEX (code CJ)
Contract months: February, May, August, November
Contract size: 1 contract is 10 multiplier of the reference price per metric ton
Quotation: South African Rand (ZAR) with the contract price referencing the foreign underlying commodity market for the expiry linked delivery period.
Minimum price movement: R 1 per contract
Expiry dates: Expiry date will be the 15th business day prior to the first business day of the reference month.
JSE Expiry/ CME Reference:

JSE Expiry	CME Reference
February	March
May	July
August	September
November	December

Cash settlement value: The final settlement price for cash settlement of the contract will require only a CME Group component, denominated in ZAR. The CME Group settlement value (MTM) as published on the expiry date of the South African contract will be applied as the final cash settlement value. Due to the time difference the final cash settlement value published by CME will only be reflected the following business day (which is the clearance date) for the final cash settlement process for remaining position holders. This value will be released to the market by 08h30 the following morning and processed as the final settlement value during the end of day clearing run – no trading will be accommodated on this day.

5.1.3 Quanto Cocoa (QCOC) Price Quotes

QCOC prices are available from members who have access to the JSE Nutron system. End of day mark to market prices available on the JSE website. Active quotes are available from market makers, currently Rand Merchant Bank. This is an innovative product offered by the JSE. Participants have the opportunity to hedge or profit from directional moves in the international price of cocoa.

Compiled by KP Faure
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Source:

<http://af.reuters.com/finance/agriculturalCommodities>

<https://www.agra-net.com/agra/public-ledger/commodities/softs/cocoa/>

<http://www.agrimoney.com/>

<http://www.barchart.com/>

<http://www.blommer.com/>

<https://www.cadbury.com.au/Home.aspx>

<http://www.cocoaederation.com/education/cocoa-production>

<https://www.cocobod.gh/>

<http://www.cmegroup.com/>

http://www.ecobank.com/rc_soft.aspx

<http://www.icco.org/>

<http://www.insidefutures.com/>

<https://www.jse.co.za/content/JSEContractSpecificationItems/Quantos%20-%20Soft%20Commodities.pdf>

<https://www.theice.com/products/7/Cocoa-Futures>



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